

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 14-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corisis (US 5,818,698) in view of Akram (US 5,817,535).

Re claims 1, 15: Corisis discloses providing a rectangular, substantially planar substrate (10) having a longitudinal axis (left and right of 10 in Fig. 3); and forming an elongated multisegmented interconnect slot (16) in the substantially planar substrate having a longitudinal axis positioned approximately colinear to the longitudinal axis of the substantially planar substrate (left and right of 10 in Fig. 3) comprising: sizing, configuring and positioning a first segment of the elongated multisegmented interconnect slot and at least a second segment of the elongated multisegmented interconnect slot for respective alignment with a first plurality of bond pads and at least a second plurality of bond pads on a single semiconductor die to be placed on the substantially planar substrate to enable respective access to the first plurality of bond pads and the at least a second plurality of bond pads through the first segment of the elongated multisegmented interconnect slot and the at least a second segment of the elongated multisegmented interconnect (as shown in Fig. 3, sizing, configuring and positioning is disclosed since 16 are formed in the manner wherein an elongated multisegmented interconnect slot (16) in the substantially planar substrate (10) having a longitudinal axis

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positioned approximately colinear to the longitudinal axis of the substantially planar substrate);

wherein sizing, configuring and positioning the first segment of the elongated

multisegmented interconnect slot and the at least a second segment of the elongated

multisegmented interconnect slot further comprises removing at least a portion of the material

from the substrate (16 are holes) along the longitudinal axis of the substrate (left and right of 10

in Fig. 3) and positioning at least one crosspiece (between 16s) substantially transverse to the

longitudinal axis of the substrate (left and right of 10 in Fig. 3) to form a first segment of the

elongated multisegmented interconnect slot (one 16 located far left) and at least a second

segment of the elongated multisegmented interconnect slot (another 16 located adjacent to one

16 along the longitudinal axis) separated by the at least one crosspiece (between 16s), except for a

dielectric material.

Akram discloses a dielectric material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Corisis by a dielectric material, as taught by Akram, for the purpose of insulating the conductors from each other.

Re claims 14 and 20: Corisis discloses positioning the at least one crosspiece (in the center of 10) substantially at a longitudinal midpoint of a total length of the elongated multisegmented interconnect slot (fourth 16 and fifth 16).

3. Claims 2, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corisis (US 5,818,698)/Akram (US 5,817,535) as applied to claims 1, 15 above, and further in view of Weber (US 5,597,643).

Corisis/Akram fail to disclose milling.

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Weber discloses milling.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Corisis/Akram by milling, as taught by Weber, for the purpose of removing excess material with a minimum of burrs.

4. Claims 3, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corisis (US 5,818,698)/Akram (US 5,817,535)/Weber (US 5,597,643) as applied to claims 1-2, 15-16 above, and further in view of Parsons (US 3,635,124).

Corisis/Akram/Weber fail to disclose filled side edges on the crosspiece.

Parsons discloses filleted side edges on the crosspiece (39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Corisis/Akram/Weber by providing filleted side edges on the crosspiece, as taught by Parsons, for the purpose of forming smooth edges to reduce weight and material for wire bonding.

5. Claims 12-13, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Corisis (US 5,818,698)/Akram (US 5,817,535) as applied to claims 1, 15 above.

Corisis/Akram fail to disclose forming the elongated interconnect slot to a length of about 67 to 80% or more of a length of the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the elongated interconnect slot to a length of about 70 to 80% of a length of the substrate, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was

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made to form the elongated interconnect slot to a length of about 67 to 80% or more of a length of the substrate, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

### ***Response to Arguments***

6. Applicant's arguments filed 7/9/08 have been fully considered but they are not persuasive.

As shown in Fig. 3 of Corises, sizing, configuring and positioning is disclosed since 16 are formed in the manner wherein an elongated multisegmented interconnect slot (16) in the substantially planar substrate (10) having a longitudinal axis positioned approximately colinear to the longitudinal axis of the substantially planar substrate. Bond pads are shown through 16.

### ***Interviews After Final***

7. Applicant note that an interview after a final rejection must be submitted briefly in writing the intended purpose and content of the interview (the agenda of the interview must be in writing). Upon review of the agenda, the Examiner may grant the interview if the examiner is convinced that disposal or clarification for appeal may be accomplished with only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations will be denied. See MPEP 714.13 and 713.09.

### ***Conclusion***

8. Please provide reference numerals (either in parentheses next to the claimed limitation or in a table format with one column listing the claimed limitation and another column listing corresponding reference numerals in the remark section of the response to the Office Action) to

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all the claimed limitations as well as support in the disclosure for better clarity (optional).

Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (571) 272-4564. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick K. Chang/  
Primary Examiner, A.U. 3726

RC  
October 20, 2008